

LAWRENCE LIVERMORE REPORT

A weekly collection of scientific and technological achievements from Lawrence Livermore National Laboratory: Oct. 26-Nov. 2, 2009.

Energy Secretary Steven Chu stops by the Laboratory



Director George Miller, Doug Rotman of Global Security, Bruce Darling, UC executive vice president, Energy Secretary Steven Chu and Tomás Díaz de la Rubia, acting principal associate director of Science and Technology, visit the National Ignition Facility lobby before going on a tour.

Energy Secretary Steven Chu ran through a series of strategies about how the Department of Energy laboratories can help battle climate change during his all hands presentation at the Lab last week.

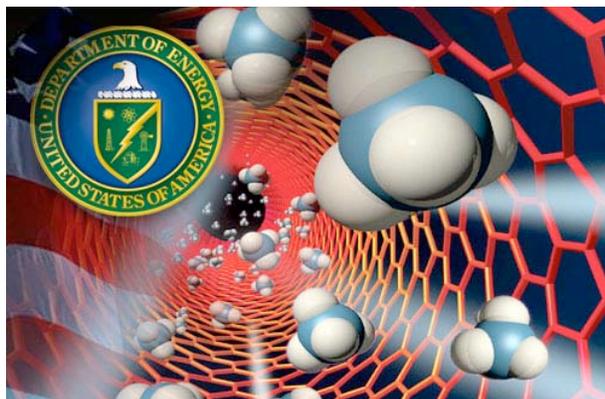
After giving an overview of the climate change that has taken place during the last century, he said Americans need to use energy more wisely; develop and deploy low carbon technologies; discover some breakthroughs to reduce carbon emissions; and act now with "fierce urgency."

"The national laboratories are the primary asset for DOE," he said. "We're altering the destiny of Earth and we have to work very hard to limit that altering. There's nowhere else to go. This is a planet we should be taking care of."

Chu stressed how the mindset of energy efficiency needs to be ingrained in everyone's consciousness. "There are tremendous opportunities for the labs to lead by example. We need to get the kids engaged.' It has to be a way of thinking. The consciousness has to be raised."

For more, go to https://newsline.llnl.gov/_rev02/articles/2009/oct/10.30.09-chu.php

LLNL carbon nanotube project selected for funding



An artist's rendering of carbon nanotubes.

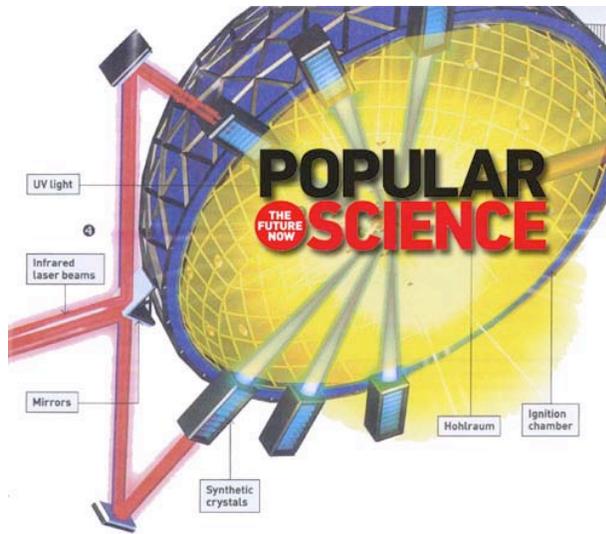
Laboratory-developed carbon nanotubes used to capture carbon received more than \$1 million last week from the Department of Energy. This is the first project funded through the efforts of the Lab's Recovery Act Office.

The money, which was awarded through DOE's Advanced Research Projects Agency-Energy (ARPA-E), will be shared among the Lab, Porifera Inc. and UC Berkeley. Olgica Bakajin, who is on entrepreneurial leave from the Lab, is the chief technology officer at Porifera.

ARPA-E's mission is to develop nimble, creative and inventive approaches to transform the global energy landscape while advancing America's technology leadership. Livermore's carbon nanotubes will be integrated into polymer membranes to increase the flux of carbon dioxide capture membranes by two orders of magnitude. The technology could enable much less expensive carbon capture from coal plants.

For more information, go to the ARPA-E Website at <http://arpa-e.energy.gov/>.

NIF pops up in Popular Science



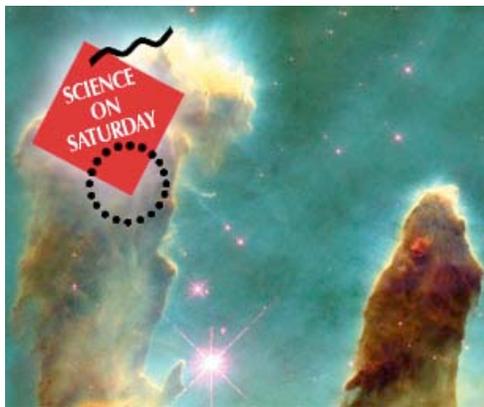
The National Ignition Facility, also known as the biggest laser in the world, was recently featured in *Popular Science*.

In addition to creating nuclear fusion, NIF could create endless energy and manmade stars. Fusion experiments are expected to begin in 2010. The article goes on to explain how NIF works.

To read more, go to

https://publicaffairs.llnl.gov/news/lab_report/2009/nov/Popular_Science_NIF.pdf

'Science on Saturday' travels to Tracy



The Laboratory's popular lecture series, "Science on Saturday," returns to Tracy this month. This year's talks explore some interesting topics -- the unusual material aerogel and the birth of the solar system. Each will be held at the Grand Theater, 715 Central Ave., Tracy.

Science on Saturday is a series of science lectures for middle and high school students. Each topic highlights cutting-edge science occurring at the Lab. The talks are presented by leading LLNL science researchers supported by master high school science teachers and are sponsored by LLNL's Science Education Program.

Both Tracy Science on Saturday lectures will start at 9:30 a.m. and include "Order From Chaos: The Birth of the Solar System," presented by John Bradley, LLNL scientist, and Dean Reese, Tracy High School science teacher, on Nov. 7; and "Aerogels: The Materials Science of Empty Space," by Alex Gash, LLNL scientist, and Ellen Rocco, teacher, on Nov. 14.

For more, go to <http://education.llnl.gov/sos/?page=upcoming>

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Photo of the week



Poster perfect: Randy Nelson, left, talks with Kristen Howley and Sasha Ames about his poster "Re-evaluating the Charm Quark Cross Section," during the Lab's Lawrence Scholar Program annual poster symposium.

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